



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Recent Researches in the Sumerian Calendar. — By
GEORGE A. BARTON, Professor in Bryn Mawr College
Bryn Mawr, Pa.

There are many unsolved problems in Sumerology, and one of these is the arrangement and development of the calendar. For the period of the dynasty of Ur the area of uncertainty has been for Lagash and Nippur reduced to narrow limits, but for the earlier period there is as yet no agreement. The uncertainty is well illustrated by the fact that Genouillac in 1909 arranged the names of the months in a certain order for the period of Urkagina, beginning the year with the month Ezen-Bau at the vernal equinox;¹ the present writer in 1910 found thirty six month-names for the same period, which applied to thirteen months, (one of them being the intercalary month), which he believed represented a year beginning at the autumnal equinox;² in the same year Myhrman compiled four lists of months which were in use during the period of Ur, one of which began with ŠE-KIN-KUD, and two with the month GAN-MAŠ.³ He was influenced in the arrangement of these last mentioned lists by an old theory of his friend Radau, who had contended that the calendar began with that month. Finally Langdon 1911, arranged for the Urkagina period a calendar of twelve months. He ignored may the variant names. He began the year with the month August-September.⁴ Each of the three investigators who treats the calendar of Urkagina has arranged the months in a different order and would begin the year at a different period. Langdon endeavors to connect the calendar of the Urkagina period with that of the Ur period, and believes that he has discovered a law

¹ *Tablettes sumériennes archaïques* p. xvii ff.

² JAOS, XXXI, 251 ff.

³ *Babylonian Expedition of the University of Pennsylvania.* III, 45 ff.

⁴ *Tablets from the Archives of Drehem*, Paris, Geuthner, 1911, p. 5 ff.
VOL. XXXIII. Part I.

by which the months were gradually shifted. If one could accept his system and believe that his knowledge of the Babylonian seasons and harvests is accurate, Langdon would persuade him that the Sumerian calendar was invented 2100 years before the Ur dynasty or about 4400 — 4500 B. C. Such wide differences of opinion serve to show that we are all in a good degree groping in the dark.

Meantime Thureau-Dangin has collected from unpublished tablets the names and order of the months as he believes they were arranged in the calendars of Umma and Jôkha. While these calendars belong to the Ur period and the arrangements proposed rest in many instances on doubtful data, their variations in one or two clearly established points from calendars previously known throw light on a number of problems. They also make it clear there was no such thing as a uniform Sumerian Calendar for the whole of Babylonia.

It is the fashion among some Sumerologists to assume that all who engage in Sumerian studies except one's self and one's teacher or pupil, are ignorant of the first principles of the science, and accordingly each scholar fiercely asserts the correctness of his own opinions. So long as this is the case, and so long as the results obtained differ as widely as those referred to above, the general public cannot be blamed for thinking that Sumerology is not yet a science, but belongs to the realm of imaginative fiction.

It is not in this spirit that the writer approaches the study. He readily acknowledges his own humble position among the devotees of the craft, and is eager to learn from any and every quarter. So long as we are dealing with a matter which strives to escape from imaginative literature and to find standing room in the realm of science, it is quite right to test each theory by such facts as can be ascertained, and in this testing the humblest workers may find a place. It is with this purpose that the following criticisms are offered.

Myhrman, followed by Langdon, gives two lists of months of a year beginning with a month GAN-MAŠ. There is really no decisive evidence offered in support of such a year. It is true that in the great grain account published in CT, III, (Nr. 18343), the accounts run from GAN-MAŠ to ŠE-IL-LA, but that does not prove that the year began with GAN-MAŠ, but only that at the beginning of that month was

the new grain ready to be put into circulation. A modern firm might for economic causes run their fiscal year from Feb. 1st to Jan. 31st, but this would not imply that the calendar of the time did not begin its year with Jan. 1st. That the year of the authors of this tablet began with ŠE-IL-LA is shown by the fact that the intercallary month was DIR-ŠE-KIN-KUD (cf. col. x, 48, xii, 40, and xiii, 9). If the year had begun with GAN-MAŠ, the intercalary month should have been a second ŠE-IL-LA. The lists which begin with GAN-MAŠ may, therefore, be disregarded.

On the other hand a tablet published by Radau, EBH, 299, (viz: EAH, 134), testifies to a year which began with ŠE-KIN-KUD and concluded with EZIN-MI-KI-GAL. This list which simply couples the names of certain officials with the different months, clearly arranges them in their calendar order. This is confirmed by a tablet recently published from Drehem.¹ Clearly, then, there were places in the Ur period where the calendar began with the month with which in other places it ended. Langdon² has rightly pointed out that in the tablets from Drehem published by him one can see the year shifting from one system to the other, sometimes DIR-EZEN-MI-KI-GAL³ being the intercalary month, and sometimes DIR-ŠE-KIN-KUD.⁴ As ŠE-KIN-KUD is a name which signifies the "grain" or "barley-harvest" and as that harvest begins now about the middle of April,⁵ it is clear that originally that month came a month later than in the calendar of the time of Ur at Telloh. For some reason, probably because intercalary months were not appointed often enough, it had been drawn back one place in the calendar. At Drehem we see the change in progress.

The recognition of this fact solves a difficulty which I felt when writing on the calendar two years ago;⁵ but the right solution of which I did not then find. It accordingly necessitates a slight modification of my arrangement of the months, as will be pointed out below.

Langdon's inference that this process had been going on for such a length of time that the calendar had been drawn five

¹ *La trouvaille de Dréhem*, par H. de Genouillac, Paris, 1911, Nr. 65.

² *Op. cit.* p. 6.

³ *Ibid.* Nr. 55.

⁴ *Ibid.* Nr. 2.

⁵ JAOS, XXXI, 259, n. 1.

months out of its original position, is based upon a number of misconceptions. One of the most fundamental of these is the notion that the barley harvest ever came as late as July-August, and that the date harvest came in July. These are simple facts which can be ascertained from modern conditions without a knowledge of Sumerian. Barley harvest began in the latter part of March and extended into April.¹ The wheat harvest followed on after it. The date harvest at Buṣrah, which is farther south than Telloh, begins now about the middle of September² and lasts for six or eight weeks. Langdon has also overlooked the fact that as early as the time of Urkagina the appointment of an intercalary month was in use.³ It is inconceivable that a people who had invented an intercalary month to keep their agriculturally named months in coincidence with the agricultural seasons, should permit it to be drawn absolutely out of touch with them at a time when the agricultural names were fully understood. Indeed, on Langdon's theory the month names must have become fixed about 4400 B. C. and the process of dislocation must have been far advanced by 3000—2800 B. C., where we must place Urkagina. The month names of the time of Urkagina make such a theory wholly untenable. They are not only in a thoroughly fluid state, some months being named from any one of several agricultural processes which took place in it, but the names themselves occur in their fullest forms. They are still whole sentences, which have definite agricultural meanings. They are not the mere meaningless fragments which some of them had become by the Ur Period. Such changes as are traceable in the Sumerian calendar before the Ur period occurred in the space of 500 years and not 2100 years.


















Langdon rightly begins the year toward the autumn. He makes the first month Aug.-Sept., instead of Sept.-Oct. In the present state of our knowledge this is not a serious divergence, though his reason for choosing it, viz: —that ŠE-KIN-KUD and ŠU-NUMUN originally belonged five months from the time where we later find them, is a misconception of the

¹ JAOS. XXXI, 259, n. 1.

² Zwemer, *Arabia the Cradle of Islam*, p. 125.

³ DP, Nr. 99.

Babylonian seasons. That the year began in the autumn as late as the time of Gudea¹, is a fact to which attention has previously been called.² The change from this to a year which began with the vernal equinox was an innovation introduced between the time of Gudea, therefore, and the dynasty of Ur. What was the cause of the change, we can only conjecture, and conjecture in the absence of facts is futile. But all the information points to the theory that a definite change to a year beginning in the spring, had been made at Telloh within the comparatively short period between Gudea and the dynasty of Ur.

Langdon equates the stellar month-name of the period of Urkagina, viz: —ITU MUL-BABBAR-SAG-E-TA-ŠUB-A-A, (i. e.         ) with ITU BAR-ZAG (i. e.   ) which occurs in the Ur period at Nippur. Langdon reads  Bar instead of BABBAR, which is, of course, possible. He then takes BAR-SAG as the name of the star, instead of interpreting SAG in the sense of "front" or "leadership" as I would do,³ and takes the reading BAR-ZAG as another spelling for this. There is hardly a possibility that this is right, since in EAH 134 it is spelled ITU BAR-AZAG-GAR (   ). Though the BAR-ZAG is spelled differently in the two texts the presence of the GAR or GA-RA in both the Ur names introduces an element which is not in the earlier name, and the identification of either with the earlier name is extremely improbable. Langdon thinks that its use as a month name arose from the acronic setting of some unidentified star, though he admits that this is the opposite of the usage of the Persian period. The view formerly expressed by me,⁴ that the star is Sirius, that the reference is to its heliac rising, and that the month is identical with the month LIK (month of the dog), once called LIK-BAD (month the dog dies), though conjectural, is still the most probable conjecture.

In this connection the date of DP 99 should be discussed. When writing two years ago, I recognized it as an intercalary month, though a part of the name was not then clear

¹ Stat. E, v, 1—2; stat. G, iii, 5.

² Cf. JAOS, XXXI, 255, and the references there given.

³ JAOS, XXXI, 266.

⁴ *Ibid*, 266 f.

Ningirsu (SAK, 243), and that it was also a proper name of men. Kugler's interpretation is plausible and attractive, though as yet uncertain.

Of the reconstruction of the calendars of Umma and Jôkha by Thureau-Dangin one feels some doubt. For example, it is assumed from the statement of a text, that "From the month ŠE-KIN-KUD to the month Dumuzi was twelve months", that the year began with the month ŠE-KIN-KUD. While the fact that at Drehem ŠE-KIN-KUD began the year establishes a presumption that the same was the case at Umma, the statement itself does not prove it any more than the statement that from December to November is twelve months would prove that our year begins with December.

The statement does prove that at Umma, (and the same seems to have been true for Jôkha), the Feast of Amaraasi was called the feast of Tammuz. A deity sufficiently akin to Tammuz to be identified with him, seems to have been especially honored in the winter time.

Taking into account the new information which has come to light, the table of months published in vol. XXXI should be corrected as in the following list. The position of those preceded by an interrogation is still in doubt: The position assigned to those preceded by two question marks is wholly conjectural.

The exact date of the new year cannot as yet be accurately ascertained. Probably it was not accurately determined astronomically, but came somewhere near the date harvest. It may have ranged from the end of August to the end of September.

Tentative List of Months.

First month,	ITU EZIN- ^a BA-U
Second month,	{ ITU EZIN-BULUK-KÙ- ^a NINA
	{ ITU EZIN-ŠE-KÙ- ^a NINA
	{ ITU EZIN-AB-UD-DU
	{ ITU GAR-KA-ID-KA
Third month, (??)	ITU ŠI-GAR-MA
Fourth month, (??)	ITU UZ-NE-GU-RA-A

Fifth month, (??)	ITU GAL-ŠAG-GA ¹
Sixth month,	{ ITU AMAR-A-A-SIG-GA ITU AMAR-A-A-SI-DA ITU AMA-UDU-TUK
Seventh month,	{ ITU ŠE-KIN-KUD ITU MAL-UDU-UR ITU MAL-UR ITU SIG-BA ITU SIG- ^a BA-U-E-TA-GAR- RA-A
Eighth month,	{ ITU UDU-ŠU-ŠE-A-IL- ^a NINA ITU UDU-ŠE-A-IL-LA ITU UDU-ŠU-ŠE-A-KÙ ITU UDU-ŠU-ŠE-A- ^a NINA ITU UDU-ŠU-ŠE-A- ^a NIN- GIR-SU ITU ŠE-GAR-UDU ITU KARU-DUB-BA-A ITU KARU-IMI-A-TA ITU ŠI-NAM-DUB-NI-BA- DUR-BA-A ITU-KARU-IMI-DU-A ²
Ninth month,	{ ITU HAR-RA-NE-MA-A ³ ITU HAR-RA-NE-MA-A- ^a NINA
Tenth month,	{ ITU EZIN- ^a NE-ŠU (?) ITU- ^a NIN-GIR-SU-E-BIL- AN-TA-SUR-RA (?) ITU AN-TA-SUR-RA-A

¹ This conjecture is based upon the fact that at Umma and Jôkha the feast of Tammuz came in the winter. As there is some probability that this was a feast of Tammuz, (cf. JAOS, XXXI, 268), I place it tentatively here.

² This name, which occurs in DP, 114, was overlooked by me when writing my former article. It means "Month when the storehouse tablets are sealed".

³ I regret that in my former article (JAOS, 263, n. 1), I misunderstood Thureau-Dangin's position as to the reading of this name. It is not certain that GUD should be read HAR, but Thureau-Dangin still holds that opinion.

Eleventh month,	{	ITU EZIN-BULUK-KÙ- ^a NIN-
		GIR-SU
Twelfth month,	{	ITU EZIN-ŠE-KÙ- ^a NIN-GIR-
		SU
		ITU EZIN-DIM-KÙ
		(??) ITU EZIN- ^a LUGAL-ERIM
Intercalary month,	{	(??) ITU GAL-UNUG ^{ki} -GA
		(?) ITU MUL-BABBAR-SAG-E-
		TA-ŠUB-A-A
		ITU BABBAR-MIN-GÁL-LA-A